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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,775	07/25/2003	Hee Bok Kang	40296-0030	1859
26633	7590	02/16/2006	EXAMINER	
HELLER EHRMAN WHITE & MCAULIFFE LLP 1717 RHODE ISLAND AVE, NW WASHINGTON, DC 20036-3001			NGUYEN, VAN THU T	
			ART UNIT	PAPER NUMBER
			2824	

DATE MAILED: 02/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/626,775	Applicant(s) KANG, HEE BOK	
	Examiner VanThu Nguyen	Art Unit 2824	



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/28/05.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20 is/are allowed.
- 6) ☒ Claim(s) 1,9 and 10 is/are rejected.
- 7) ☒ Claim(s) 2-8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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Response to Amendment

1. This Office Action is in response to Amendment filed on December 28, 2005.
2. Claims 1-10, 20 are pending.

Response to Arguments

3. Applicant's arguments filed December 28, 2005 have been fully considered but they are not persuasive.

As understood, Applicant argues that the input signal (V_{WL} ?) received by the programmable voltage converter 114 does not have a characteristic parameter, and the supply voltage signal provided to the programmable voltage generator 114 of Eguchi is a fixed value that is not a characteristic parameter. Examiner disagrees with these arguments for the following reasons:

(1) Office Action, dated September 28, 2005, p3, did not cite word line voltage V_{WL} select field 121 as an input signal, but inherent voltage supplied to the programmable voltage generator 114 is.

(2) Even though the inherent voltage supplied to the programmable voltage generator 114 has a fixed value, it is still a voltage with its own magnitude (i.e. characteristic parameter), being controlled by word line voltage V_{WL} select field 121, and yielding a voltage with controlled magnitude (i.e. controlled characteristic parameter) at the output of the programmable voltage generator 114.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eguchi et al. (U.S. Patent No. 6,226,2000) in view of Keays (U.S. Patent No. 6,614,695)

Regarding claim 1, Eguchi discloses, in FIG. 2, a memory device capable of controlling a characteristic parameter (word line voltage used during read operation of the memory array 128 in test mode), comprising:

a register controller (control register 120) for storing controlling data (various bit fields to control the word line supply voltage used during read operation of the memory array 128, such as VWLSEL 121, VT ENABLE 119, etc); and

a parameter controller (programmable voltage generator 114) for receiving an input signal having a characteristic parameter (inherent voltage supply to programmable voltage generator 114, which includes voltage divider for example), for controlling the value of the characteristic parameter of the input signal according to the control data and for generating an output signal having the controlled characteristic parameter (various word line voltage values are obtained with the control of control register 120)

(See column 4 line 21 to column 5 line 52)

However, Eguchi is silent about the register controller being nonvolatile.

Keays discloses, in FIG. 1, a register controller 130 comprising a plurality of nonvolatile registers 130(a)-130(d) for controlling operations of a memory device (see column 6, lines 3-5).

Since Eguchi and Keays are both from the same field of endeavor, the purpose disclosed by Keays would have been recognized in the pertinent art of Eguchi.

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It would have been obvious at the time the invention was made to ones having ordinary skill in the art to use registers in either volatile or nonvolatile form, which depends on how they like the data being retained.

6. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eguchi in view of Keays further in view of Komatsuzaki (PGPUB. 2004/0047172).

Eguchi in view of Keays disclose, as applied in prior rejection of claim 1, all claimed subject matter except further limitations as in claims 9-10, Both Eguchi and Keays disclose the memory device having non-volatile memory arrays.

Komatsuzaki discloses, in FIG. 12, a ferroelectric memory device having ferroelectric memory arrays comprising:

- a plurality of unit cells;

- a plurality of switches (for each unit cells); and

- bit lines comprising sub bit lines connected to the plurality of unit cells and a main bit line connected to the plurality of sub bit lines via the plurality of switches,

- wherein the plurality of switches is configured so that when a predetermined unit cell of the plurality of unit cells is accessed, only a switch for connecting a particular one of the plurality of sub bit lines connecting the predetermined unit cell to the main bit line is turned on, and other switches for connecting the rest of the plurality of sub bit lines to the main bit line are all turned off (corresponding to selected word line and sub bit line).

Since Eguchi, Keays and Komatsuzaki are all from the same field of endeavor, the purpose disclosed by Komatsuzaki would have been recognized in the pertinent art of Eguchi and Keays

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It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use FeRAM because FeRAM is also an applicable non-volatile memory type, which is subjected to self test.

Allowable Subject Matter

7. Claims 2-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Claim 20 is allowed.

9. The following is a statement of reasons for the indication of allowance:

The prior art made of record and considered pertinent to the applicant's disclosure does not teach or suggest the claimed limitations. Eguchi, Keays and Roohparvar, taken individually or in combination, do not teach the claimed invention having the following limitations, in combination with the remaining claimed limitations:

- (i) a register command processor configured to receive a plurality of signals, to identify a mode by decoding the plurality of signals, and to read/write the control data from/to the plurality of registers according to the identified mode (as in claim 2); or
- (ii) all limitations as claimed in claim 20.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VanThu Nguyen whose telephone number is (571) 272-1881. The examiner can normally be reached on Monday-Friday, 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Elms can be reached on (571) 272-1869. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

February 13, 2006


VanThu Nguyen
Primary Examiner
Art Unit 2824